

What Is Claimed Is:

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1. A method for forming an automobile interior molded panel comprising a rigid substrate, a cover layer, and a localized composite pad, the method comprising:

providing a molding tool having a first mold and a second mold, the first mold having a cavity;

inserting a cover layer between the first mold and the second mold;

placing a composite pad comprising an impregnable layer and a non-impregnable layer in the cavity of the first mold, wherein the non-impregnable layer is facing the second mold and the impregnable layer is abutting the first mold;

introducing resin into the molding tool; and

solidifying the resin to form the molded panel whereby the non-impregnable layer of the composite pad is located adjacent the cover layer.

2. The method of claim 1 wherein the impregnable layer of the composite pad is spaced from the cover material when the molded panel is formed.

3. The method of claim 1 wherein the impregnable layer is made of reticulated material having an amount of pores per inch of about 1 to 100 and a foam density of about 1.5 to 2.5 pcf.

4. The method of claim 1 wherein the non-impregnable layer is made of non-reticulated elastomeric foam material.

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1 5. The method of claim 1 wherein the non-
2 impregnable layer has a foam density of 1.0-6.0 pcf.

1 6. The method of claim 1 wherein the non-
2 impregnable layer is bonded to the impregnable layer
3 before the composite pad is placed in the cavity.

1 7. The method of claim 1 wherein the resin
2 is introduced into the molding tool under a pressure of
3 about 500 - 1600 pcf.

1 8. The method of claim 1 wherein the molded
2 panel has a Shore A hardness of about 45-70 when
3 measured according to ASTM No. D2240 along a line that
4 intersects the composite pad.

1 9. The method of claim 1 wherein the
2 impregnable layer is impregnated with resin during and
3 after formation of the molded panel.

1 10. The method of claim 3 wherein the non-
2 impregnable layer is made of non-reticulated elastomeric
3 foam material.

1 11. The method of claim 10 wherein the
2 substrate comprises polypropylene and the impregnable
3 layer and non-impregnable layer comprise polyurethane.

1 12. The method of claim 10 wherein the
2 composite pad has a Shore A hardness of about 35-75 when
3 measured according to ASTM No. D2240.

1 ~~13. The method of claim 1 wherein the~~
2 ~~composite pad has a thickness of about 5-30 mm.~~

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1 ~~14. An automobile interior molded panel~~
2 ~~comprising:~~
3 ~~a rigid substrate;~~
4 ~~a composite pad comprising a non-impregnable~~
5 ~~and an impregnable layer; and~~
6 ~~a cover skin disposed over and bonded to the~~
7 ~~substrate and the pad.~~

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1 15. The panel of claim 14 wherein the cover
2 skin is bonded to at least the portion of the non-
3 impregnable layer of the pad and a portion of the
4 substrate.

1 16. The panel of claim 15 wherein the
2 impregnable layer is made of reticulated material having
3 an amount of pores per inch of about 1 to 100 and a foam
4 density of about 1.5 to 2.5 pcf.

1 17. The panel of claim 16 wherein the non-
2 impregnable layer is made of non-reticulated elastomeric
3 foam material.

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1 ~~18. The substrate of claim 17 wherein the~~
2 ~~rigid substrate is formed throughout the impregnable~~
3 ~~layer upon solidification of the resin.~~

1 19. The panel of claim 18 wherein the
2 composite pad has a Shore A hardness of about 35-70 when
3 measured according to ASTM No. D2240.

1 20. The panel of claim 19 wherein the molded
2 panel has a Shore A hardness of about 45-70 when
3 measured according to ASTM No. D2240 while measuring
4 along a line that intersects the composite pad.

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